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Spring 5-20-2020

2020 Bogside May 20: Fungi - Upright Dieback Not Too Late, Fruit Rot Options?

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Cranberry Disease Management Guidelines

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UMass Cranberry Station

May 20th, 2020



Upright Dieback



*Phomopsis
vaccinii*

*Fusicoccum
putrefaciens*

*Synchronoblastia
crypta*



Upright Dieback Management

- ❖ **Avoid heat stress.** Prolonged periods of drought worsens the damage caused by this disease.
- ❖ **Coppers and Chlorothalonil fungicides** are registered.
eg: Champ DP, Champ Flowable, Champ WG
Bravo Ultrex, Bravo Weather Stik, Equus DF
- ❖ **Timing of applications:**
Early applications at bud break and/or bud elongation are known to provide excellent control.

DISEASE - UPRIGHT DIEBACK

TIMING - April 25 through May 15

PESTICIDE/FORMULATION	RATE (amt/A)	COMMENTS/RESTRICTIONS
Champ DP Dry Prill	5.3 lb	Must be applied pre-bloom. 48-hour restricted entry interval.
Champ Formula 2 Flowable	5.33 pt	
Champ WG	4.2 lb	
<u>CHLOROTHALONIL FORMULATIONS</u>		
Bravo Ultrex, Echo DF	3.8 – 6 lb	<u>One pre-bloom application</u> should be applied after the terminal bud has broken dormancy (begun to swell or has begun new growth). Exact timing will depend on whether the variety is early or late-season. 12-hour restricted entry interval.
Bravo Weather Stik	4 – 6.5 pt	
Chlorothalonil 720 SC	4 – 6.5 pt	
Chloronil 720, Equus 720 SST	4 – 6.5 pt	
Echo 720	4 - 7 pt	
Echo 90DF	3.25 - 5.75 lb	
Equus 500 ZN, Initiate ZN	5.75 – 9.25 pt	

For all above chlorothalonil formulations: Hold water for 3 days after application. When chlorothalonil formulations are to be used in a bed subject to Zone II regulations, growers must follow the required process to determine if these products may be used. See Zone II section. The maximum allowable number of chlorothalonil applications is 3. **If a chlorothalonil application is used for upright dieback control, only 2 fruit rot applications are allowed.**

Cranberry Bud Stages

Cabbage head



Early Black



Howes

Cranberry Bud Stages

Bud Elongation: Between cabbage head and roughneck



Early Black



Howes



Examples of Bud Elongation



Cranberry Bud Stages

Roughneck Stage





Upright Dieback

- Spores of the primary causal agent *Phomopsis* begin to be produced from overwintering cranberry tissue in April and May, the emerging buds are particularly susceptible to the infection.



Upright Dieback

- There are **three phases** during the season when the symptoms appear:
 - shortly after the withdrawal of winter flood
 - June and early July
 - Late August and September

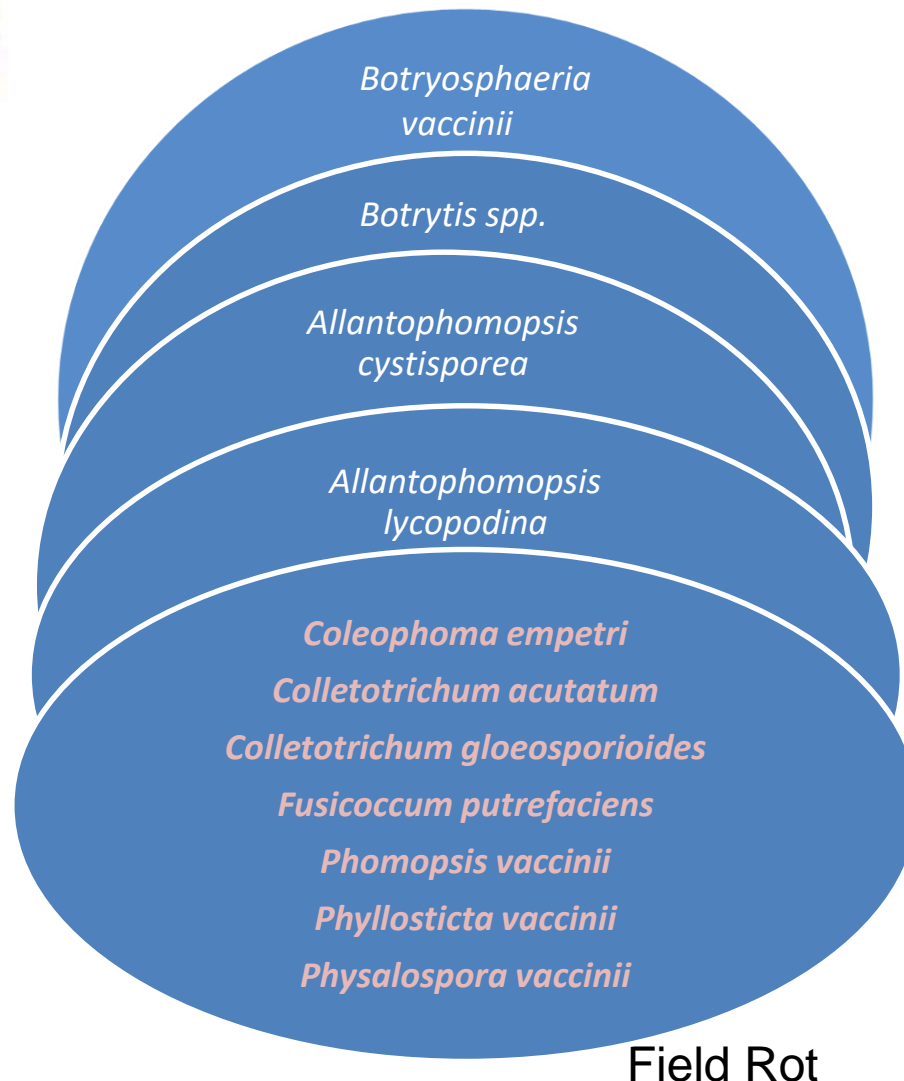


Upright Dieback

- Fungicides targeted for fruit rot control also provide a degree of protection against this disease during early and mid-season infection periods.



Fruit Rot





Keeping Quality Forecast

- Issued since 1949
- **Preliminary KQF** – early April; timed for the decision of whether to hold late water
- **Final KQF** – early June; timed for the determination of fungicide applications and rates.



Preliminary Forecast for 2020 Keeping Quality

**The preliminary forecast for 2020 is for
FAIR keeping quality**

Fungicides

Chemical Control

- Choice of fungicide options- Efficacy
Availability
Phytotoxicity

Azoxystrobin

Group 11
Abound

Group 3
Indar
Proline

Fenbuconazole

Prothioconazole

Azoxystrobin &
Difenconazole

**Group 3 &
11**
Quadris Top

Group M5
Group M3
Group M1
Group 19

Cholorothalonils

Mancozebs


Coppers

Polyoxin- D-Zinc Salt

Mancozeb Status

- ❖ The European Union notified the WTO of its proposal not to renew the approval for use of **mancozeb** (Manzate) in the European Union.
- ❖ The current proposal is open for comments at the WTO until June 15th. A final publication is expected no earlier than July 2020.
- ❖ Once a final decision is published, European users will have three months for use of available stocks, with a maximum grace period of six months.

FRUIT ROT FUNGICIDE EFFICACY

	Fungicide	Trade Names	Comments
<p>High efficacy</p> 	Chlorothalonil	Bravo, Echo, Equus, etc.	Check with handler for market restrictions.
	Mancozeb	Dithane, Manzate, Penncozeb, etc.	May delay fruit color. Efficacy comparable to chlorothalonil. Low risk of resistance. Should be used as a resistance management tool if using 'newer' fungicides (see resistance management section). Restricted by some handlers.
	Prothioconazole	Proline	Moderate risk of resistance. No more than 2 applications recommended. For best results and resistance management, use during bloom and combine with azoxystrobin.
	Fenbuconazole	Indar	
	Azoxystrobin	Abound, Satori	High risk of resistance. No more than 2 applications. For best results combine with prothioconazole or fenbuconazole.
	Polyoxin-D zinc salt	Oso and Ph-D	Moderate risk of resistance. Maximum of 3 Oso applications or 6 Ph-D applications. Limited research on efficacy of polyoxin-D fungicides in MA. For best results alternate or incorporate into a program with other fungicides for fruit rot.
Low efficacy	Ferbam, Coppers, SDHI, plant extracts	Champ, Kocide, Kenja, Regalia, etc.	Limited research on efficacy of Kenja and Regalia in MA. These products were not effective against rot in 2016 trials. It is possible that better results could be obtained if alternated with other fungicide products with higher efficacy ratings.



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